

08/270152

**Abstract**

5 When stimulated through the T cell receptor(TCR)/CD3 complex without requisite  
costimulation through the CD28/B7 interaction, T cells enter a state of antigen specific  
unresponsiveness or anergy. This invention is based, at least in part, on the discovery that  
signaling through a common cytokine receptor  $\gamma$  chain (e.g., interleukin-2 receptor, interleukin-  
4 receptor, interleukin-7 receptor) prevents the induction of T cell anergy. This  $\gamma$  chain has  
10 been found to be associated with a JAK kinase having a molecular weight of about 116 kD (as  
determined by sodium dodecyl sulfate polyacrylamide gel electrophoresis) and signaling  
through the  $\gamma$  chain induces phosphorylation of the JAK kinase. Accordingly, methods for  
stimulating or inhibiting proliferation by a T cell which expresses a cytokine receptor  $\gamma$  chain  
are disclosed.